

Initial Appraisal of the Neosho River Logjam

John Redmond Reservoir, Kansas

February 2005

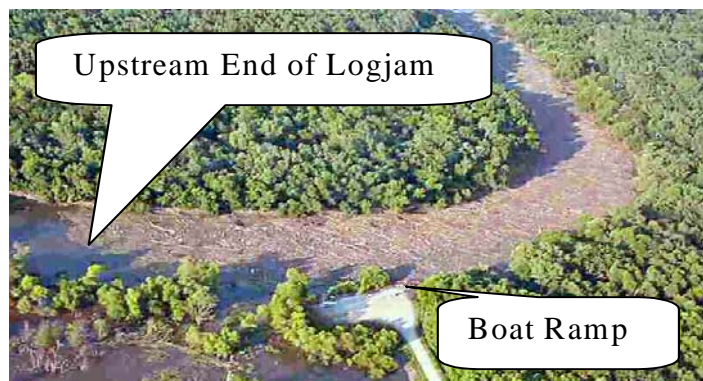
Description of Problem

Sediment and debris have been noticeably collecting in the upper reach of John Redmond Reservoir (Reservoir) in the Neosho River (River) since the early 1970's. The slope of the stream is very flat where the River enters the lake and that, in part, has caused sediment to be deposited in a mudflat. The mudflat has in turn caused woody debris that would otherwise flow into the lake to collect in logjams at various locations over time. A location map is shown on page 2.



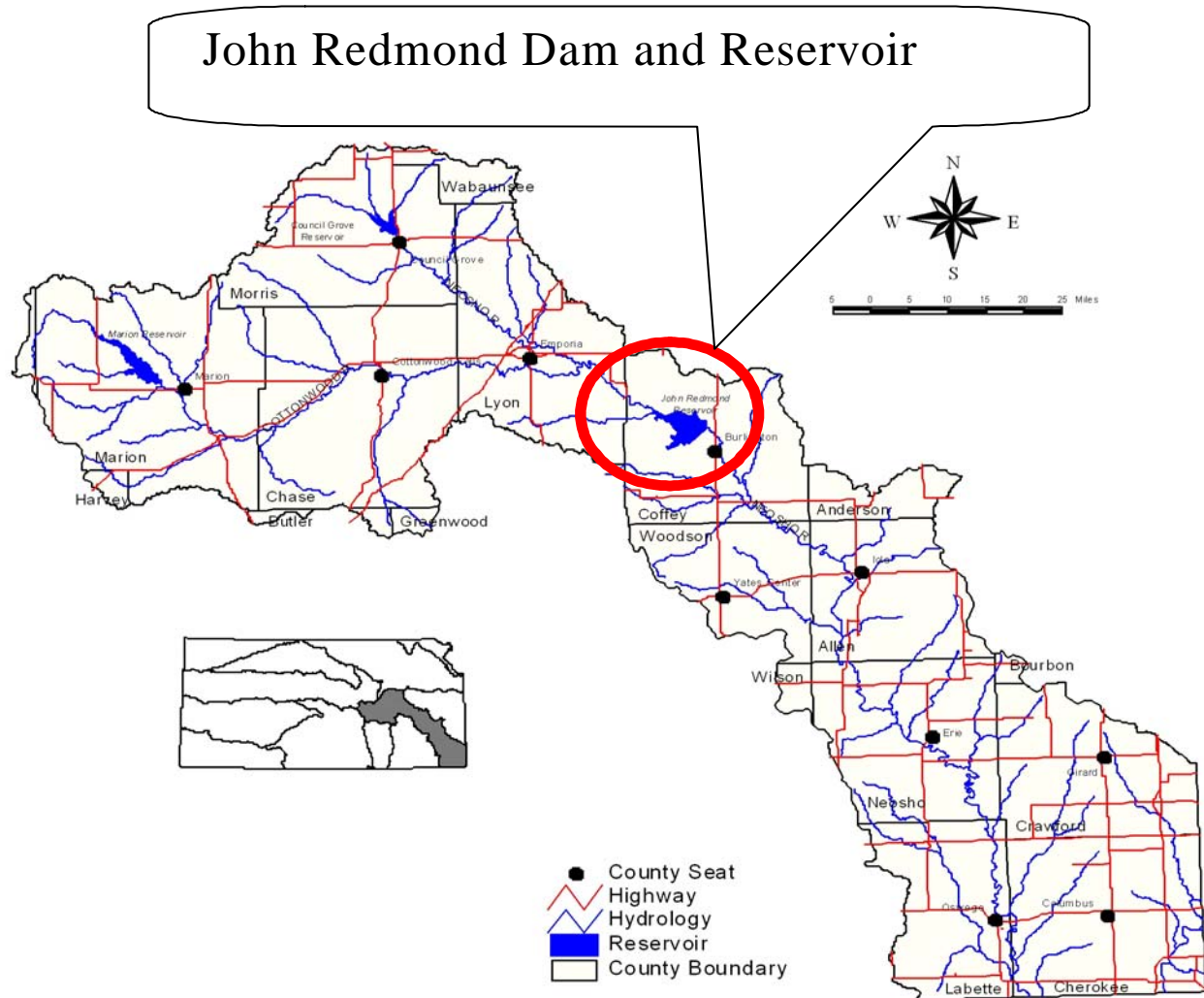
Initially, the logjams were more of a curiosity than an issue for local residents. However, when the first John Redmond Reservoir storage reallocation proposal was coordinated for public comment in 1975/1976, local residents raised issues about the current logjams and how future conditions might affect Reservoir access and recreation. Those concerns were again expressed when the second storage reallocation was coordinated for public comment in 2001. Those comments are presented in this report.

The Neosho River logjams appear to have consolidated and expanded in the River near the Reservoir before 2004. Enclosed information discussed later in this report describes logjam conditions at different times. From the filling of the Reservoir in 1964 until about 1990, boating access between the Reservoir and the River was possible. During the late 1980's and early 1990's, boating between the River and the Reservoir was dependent on a combination of Reservoir levels, River flows, and changing logjam conditions. In 1991 or shortly thereafter, access between the River and the Reservoir was not possible. In 2004, the greatest accumulation of debris occurred since construction of the Reservoir. The logjam that existed at the beginning of 2004 was about 3/8 of a mile long. After the heavy spring rains and resulting River flows, the logjam had increased to over 1.5 miles.



The severe ice storm in 2002 and higher than normal runoff in the spring of 2004 are generally believed to have caused enough additional debris to be added to the previous logjam so that in June 2004 the Jacobs Creek Landing boat ramp was unusable (see photo, courtesy of Jacobs Creek residents).

Neosho River Basin in Kansas



DATA SOURCES:

Hydrology: EPA RF 1
Political Boundaries: KCD
Towns: GNIS/USGS
Roads: 100K DLG/USGS/DASC

This map intended for planning purposes only.
Kansas Water Office, May 1999

The closest river access to Jacobs Creek Landing is about 8 river miles upstream at Hartford, Kansas. Hartford overlooks the Neosho River and adjoins the Flint Hills National Wildlife Refuge (Refuge).

The Neosho River could also be accessed from Eagle Creek immediately upstream where a temporary gravel ramp was constructed in 2004 in an effort to address the loss of the Jacobs Creek Landing access for fishing and hunting. Eagle Creek enters the Neosho River about a mile upstream of the Jacobs Creek Landing. A logjam was found to be blocking the mouth of Eagle Creek during a field visit in December 2004. From local accounts and aerial photography, it was understood that sediment was noticeably accumulating at the mouth of Eagle Creek for at least the past 15 years. The accumulation of sediment made boat access to the Neosho River difficult and dependent on higher River stages and Eagle Creek flows. The Eagle Creek logjam is about 100 yards in length and spans the width of the Eagle Creek channel.

The property around the logjams at the Neosho River and Eagle Creek is owned by the Federal government and managed by the U.S. Army Corps of Engineers as part of the lands required for operation of the Reservoir. The Corps-managed lands upstream of the Reservoir comprise the Refuge. The Refuge is managed by the U.S. Fish and Wildlife Service and extends about 3 miles upstream of Hartford to the vicinity of Neosho Rapids, Kansas. The Refuge is described later in this report.

The illustration shows the Reservoir (in the lower right corner), Jacobs Creek Landing (on the south side of the Neosho River toward the center of the image), Eagle Creek (running from the lower left corner toward the center of the image), and the Neosho River (flowing from the northwest as it passes Hartford). The locations of logjams at various times are shown on subsequent illustrations. The initial logjam, often referred to as the “plug” locally, comprised the first 500 feet of the downstream end of the current logjam shown in the picture to the right.

